Fujitsu M10/SPARC M10 Systems

RCIL User Guide

FUJITSU

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Preface

This document provides information on the Remote Cabinet Interface over LAN (referred to below as RCIL) function used to manage the power supply of I/O devices from the SPARC M10 systems from Fujitsu, such as the Fujitsu storage system ETERNUS.
It is recommend to read the *Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide* to better understand the contents of this document.

Fujitsu M10 is sold as SPARC M10 Systems by Fujitsu in Japan.
Fujitsu M10 and SPARC M10 Systems are identical products.

This preface includes the following sections:

- Audience
- Related Documentation
- Text Conventions
- Safety Precautions
- Syntax of the Command Line Interface (CLI)
- Document Feedback

Audience

This document is designed for system administrators with advanced knowledge of computer networks and Oracle Solaris.

Related Documentation

All documents for your server are available online at the following sites:

- Documents related to Oracle software (Oracle Solaris, etc.)
  http://www.oracle.com/documentation/
- Fujitsu documents
  Japanese site

  http://jp.fujitsu.com/platform/server/sparc/manual/

  Global site

  http://www.fujitsu.com/global/services/computing/server/sparc/downloads/manual/

The following table lists documents related to the SPARC M10 systems.

SPARC M10 systems-related documentation (*1)
Fujitsu M10/SPARC M10 Systems Getting Started Guide (*2)
Fujitsu M10/SPARC M10 Systems Quick Guide
Fujitsu M10/SPARC M10 Systems Important Legal and Safety Information (*2)
Software License Conditions for Fujitsu M10/SPARC M10 Systems
Fujitsu M10/SPARC M10 Systems Safety and Compliance Guide
Fujitsu M10/SPARC M10 Systems Security Guide
Fujitsu M10/SPARC M10 Systems/PRIMEQUEST Common Installation Planning Manual
Fujitsu M10/SPARC M10 Systems Installation Guide
Fujitsu M10-1/SPARC M10-1 Service Manual
Fujitsu M10-4/Fujitsu M10-4S/SPARC M10-4/SPARC M10-4S Service Manual
Crossbar Box for Fujitsu M10/SPARC M10 Systems Service Manual
PCI Expansion Unit for Fujitsu M10/SPARC M10 Systems Service Manual
Fujitsu M10/SPARC M10 Systems PCI Card Installation Guide
Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide
Fujitsu M10/SPARC M10 Systems Domain Configuration Guide
Fujitsu M10/SPARC M10 Systems XSCF Reference Manual
*Fujitsu M10/SPARC M10 Systems RCIL User Guide (*3)*
Fujitsu M10/SPARC M10 Systems XSCF MIB and Trap Lists
Fujitsu M10/SPARC M10 Systems Product Notes
Fujitsu M10/SPARC M10 Systems Glossary

*1 The listed manuals are subject to change without notice.
*2 The printed manual comes with the product.
*3 This document applies specifically to the SPARC M10 systems and FUJITSU ETERNUS disk storage systems.

Text Conventions

This document uses the following fonts and symbols to express specific types of information.

Font/Symbol	Meaning	Example
AaBbCc123	Indicates what you enter, in contrast to what is displayed on the screen. This font is used to indicate an example of command input.	XSCF> **adduser jsmith**
AaBbCc123	Indicates the names of commands, files, and directories displayed in computer output and on the screen. This font is used to indicate an example of command input within the relevant framework.	XSCF> **showuser -P** User Name: jsmith Privileges: useradm auditadm
Italic	Indicates the names of reference manuals.	See the *Fujitsu M10/SPARC M10 Systems Installation Guide*.
" "	Indicates the names of chapters, sections, items, buttons, and menus.	See "Chapter 2 Network Connection."

Command syntax in the text

Though the XSCF commands have a section number of (8) or (1), it is omitted in the text.
The Oracle Solaris commands have a section number such as (1M) in the text.
Each command has a section number in the command name when prompting users to refer to it.

Safety Precautions

Read the following documents thoroughly before using or handling any SPARC M10 system:

- *Fujitsu M10/SPARC M10 Systems Important Legal and Safety Information*
- *Fujitsu M10/SPARC M10 Systems Safety and Compliance Guide*

Syntax of the Command Line Interface (CLI)

The command syntax is as follows.

- A variable that requires input of a value is in italics.
- An optional element is enclosed in [ ].
- A group of options for an optional keyword is enclosed in [ ] and delimited by |.

Document Feedback

If you have any comments or requests regarding this document, please take a moment to share it with us by indicating the manual code, manual title, and page, and stating your points specifically through the following websites:

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- Global site
  http://www.fujitsu.com/global/services/computing/server/sparc/downloads/manual/

Chapter 1

Overview of the Power Supply Interlocking Function of the SPARC M10 Systems

This section provides an overview and the mechanism of the power supply interlocking function that can be used in the SPARC M10 systems.

- What is the Power Supply Interlocking Function?
- Understanding the Forms of Connection for Power Supply Interlocking
- Power Supply Interlocking Mechanism

1.1 What is the Power Supply Interlocking Function?

The power supply interlocking function (Remote Cabinet Interface over LAN: RCIL) of the SPARC M10 systems is an interface that is used to control the power supply interlock between the SPARC M10 systems and between I/O devices. An original interface based on IPMI over LAN is used. If the following functions among the typical IPMI functions are supported, then the hardware and operating systems to be controlled can be incorporated as the targets for the power supply interlock without having to consider differences between them.

- Power on and off: Chassis Control
- Obtaining the power status: Get Chassis Status

Table 1-1 lists the terms and definitions used in regard to the power supply interlocking function of the SPARC M10 systems.

Table 1-1 Terms and definitions used in regard to the power supply interlocking

Term	Definition
Host node	Devices, such as the SPARC M10 system, supporting the power supply interlocking function of the SPARC M10 systems. The host node that is set as a master when setting a power supply interlocking group is called the master host node. The master host node is a host node that monitors connections with other host nodes and I/O nodes.

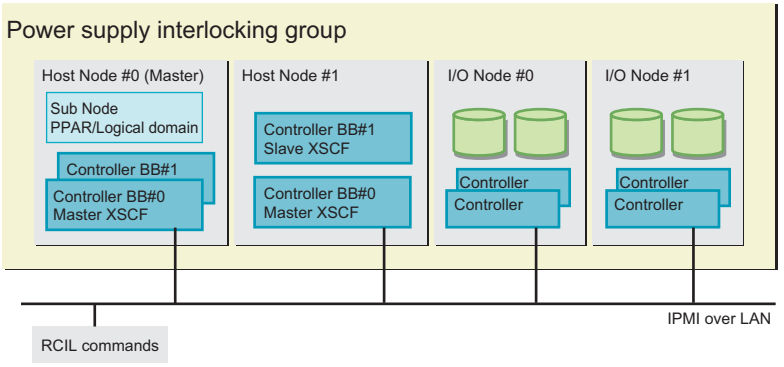
Table 1-1 Terms and definitions used in regard to the power supply interlocking *(continued)*

Term	Definition
Subnode	Physical partition in the SPARC M10 system chassis.
I/O node	I/O devices, such as the ETERNUS, supporting the power supply interlock function of the SPARC M10 systems and remote power distribution units.
Power supply interlocking group	Group obtained from the grouping of power supply interlocking targets, such as a host node, subnode, and I/O node. A unique group ID is assigned to a power supply interlocking group.

To use the power supply interlocking function, create a power supply interlocking group by combining the nodes to be interlocked. Power supply interlocking can be controlled for each created power supply interlocking group.

Note - A host node, subnode, and I/O node can be set in only a single power supply interlocking group.

Figure 1-1 Conceptual diagram of a power supply interlocking group of the SPARC M10 systems



1.2 Understanding the Forms of Connection for Power Supply Interlocking

Host nodes, subnodes, and I/O nodes that support the power supply interlocking function of the SPARC M10 systems are connected with one another via a LAN.

The following table lists the connection specifications.

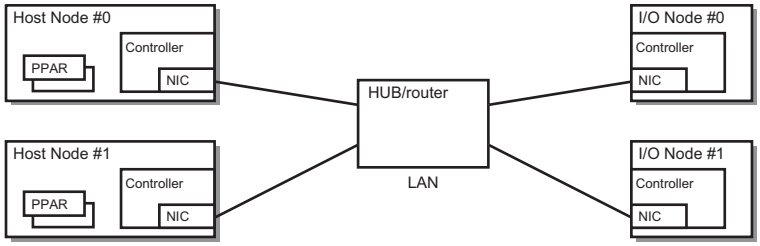
Table 1-2 Power control connection specifications

Item	Description
Forms of connection	LAN connection (use XSCF-LAN#0 or XSCF-LAN#1)
Transmission speed	100 Mbps or more
Internet protocol	IPv4
DHCP	Unsupported To use the power supply interlocking function of the SPARC M10 systems, a fixed IP address must be set for the connection target.
Connection protocol	IPMI over LAN (Intelligent Platform Management Interface)

Standard connection for power supply interlocking

Controllers supporting the power supply interlocking function of the SPARC M10 systems are mounted on host nodes, subnodes, and I/O nodes, and they are mutually connected via the same LAN.

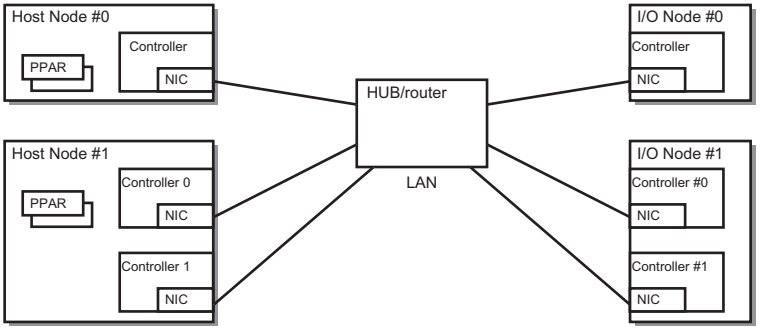
Figure 1-2 Standard forms of connection for power supply interlocking



Connection when the controllers are duplicated

If the host node controllers are duplicated, each controller can be connected to the same LAN. Operation of the power supply interlocking is performed from the master XSCF.

Figure 1-3 Forms of connection for the power supply interlocking when the controllers are duplicated



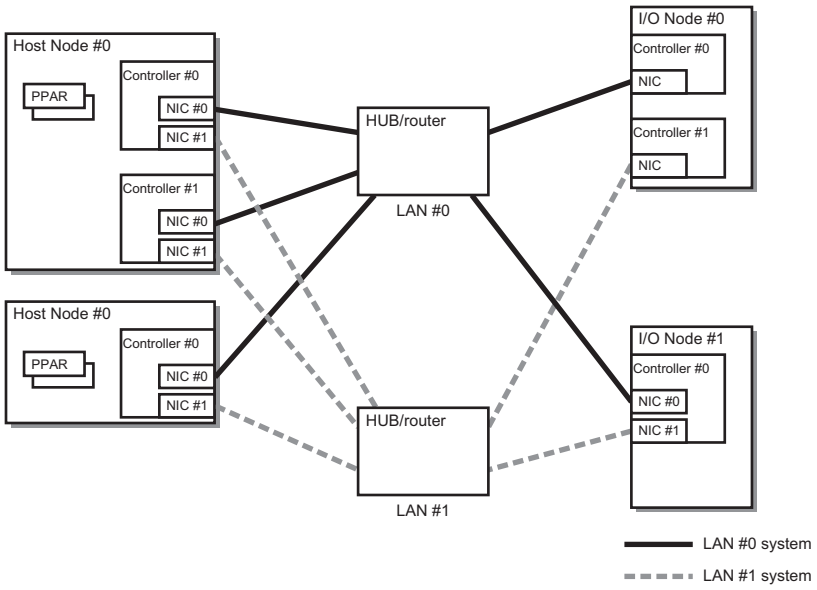
Note - Even when a controller is duplicated, if a LAN card IP address is shared as a virtual IP between the controllers, either of the controllers needs to be set.

Connection when paths are duplicated

The paths of the power supply interlocking connection can be duplicated under the following conditions.

- Two LAN cards can be mounted on the controllers of all nodes.
- Two LAN cards can be mounted on the controllers of the host nodes, and I/O nodes have either of the following configurations.
  - The controllers of the I/O nodes are duplicated.
  - Two LAN cards can be mounted on the controllers of the I/O nodes.

Figure 1-4 Forms of connection for the power supply interlocking when paths are duplicated



1.3 Power Supply Interlocking Mechanism

Power supply interlocking used in the SPARC M10 systems is controlled for each power supply interlocking group.

Of the host nodes in a group, the host nodes with the power supply interlocking function enabled are subject to the power supply interlocking. The power status of a power supply interlocking group is determined by the power status of the host nodes in the group.

- On state
  The power is on to one of the host nodes in the power supply interlocking group.
- Off state
  The power is off to all the host nodes in the power supply interlocking group.

This section describes the mechanism of interlocking when powering on and off, with the following settings assumed.

Table 1-3 Power supply interlocking mechanism (example)

Setting item	Host node #0	Host node #1	Host node #2	I/O node #0	I/O node #1
Interlocking setting	Disable	Enable	Enable	Setting disabled	Setting disabled

Table 1-3 Power supply interlocking mechanism (example) *(continued)*

Setting item	Host node #0	Host node #1	Host node #2	I/O node #0	I/O node #1
Master node	Yes	No	Yes	Setting disabled	Setting disabled

Mechanism of interlocking when powering on

If any of the host nodes in a power supply interlocking group is powered on, then all of the host nodes, subnodes, and I/O nodes in the group are powered on. They are powered on in the order of host node and I/O node.

Note - You can set the length of time that the host node waits until I/O node devices are accessible. For this setting, use the setpowerupdelay command of the XSCF firmware For details, see "9.2.2 Setting/Checking the startup wait time" in the *Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide*.

Mechanism of interlocking when powering off

After all the host nodes in a power supply interlocking group are powered off, all I/O nodes in the group are powered off.

Power supply interlocking using Wake on LAN

The power supply interlocking function of the SPARC M10 systems supports a function that starts the system using the Wake on LAN function of I/O nodes. Wake on LAN can be set for the nodes satisfying the conditions listed below. Ordinarily, the power supply interlocking function is available only with hosts and I/O devices that are equipped with a controller that supports the power supply interlocking function of SPARC M10 systems. However, even with devices that do not have such a controller, the power supply can be interlocked by configuring Wake on LAN.

- The power can be turned on and the status acquired through Wake on LAN.
- After powering on, IPMI communication over a LAN is enabled.
- Power-off is possible via IPMI.

Wake on LAN can be set for both host nodes and I/O nodes. The method of setting Wake on LAN depends on the node. See the respective node manuals.

Note - A host node with the Wake on LAN setting cannot be the master node. The SPARC M10 systems can power on/off the I/O nodes that support Wake on LAN but cannot power on the SPARC M10 systems.

Interlocking at the failure recovery time

If a node in a power supply interlocking group cannot communicate when recovered from a failure or other problem, operation is as follows.

- For an I/O node failure
  If the power to the power supply interlocking group is on, the master host node

issues a power-on instruction.

- For a host node failure
  Even if the power of a power supply interlocking group is on, the master host node does not issue a power-on instruction.

Chapter 2

Basic Flow for Configuring Power Supply Interlocking

This section describes how to configure the power supply interlocking function and how to use commands.

- Before Configuring Power Supply Interlocking
- Steps for Configuring Power Supply Interlocking

2.1 Before Configuring Power Supply Interlocking

Before configuring power supply interlocking, you need to connect LAN cables, and complete the network settings for the XSCF-LAN and the I/O devices for which power supply interlocking is to be employed.

2.2 Steps for Configuring Power Supply Interlocking

This section describes the steps for configuring power supply interlocking. Configure the power supply interlocking function by combining these steps. For an explanation on the actual configuration process for specific cases, see "Chapter 3 Examples of Power Supply Interlocking Configuration."

2.2.1 Creating a management file

A management file for configuring power supply interlocking is created in CSV format for each power supply interlocking group. You can create a management file at a storage location accessible by a URL with http, https, ftp, or file scheme.

The management file script format is as follows.

```
1,1,0x01,8a041209b35947899e7bfa5d578dbd3f,0x01,0x00,default,,10.24.0.0,0x10,
xx:xx:xx:xx:xx:xx,,,,,,,,,"4,5,6,7,8,9,10,11,12"
1,2,0x00,8a041209b35947899e7bfa5d578dbd40,0x03,0x00,default,,10.24.0.0,0x10,
xx:xx:xx:xx:xx:xx,,,,,,,,,
1,3,0x10,8a041209b35947899e7bfa5d578dbd41,0x03,0x00,default,,10.24.0.0,0x10,
xx:xx:xx:xx:xx:xx,,,,,,,,,
(Omitted)
1,128,0x20,8a041209b35947899e7bfa5d578dbd42,0x03,0x00,default,,10.24.0.0,0x10,
xx:xx:xx:xx:xx:xx,,,,,,,,,
```

GroupID, NodeID, NodeType, NodeIdentName, Linkage, Operation, User, Password, IP0-0, Slave0-0, MAC0-0, IP0-1, Slave0-1, MAC0-1, IP1-0, Slave1-0, MAC1-0, IP1-1, Slave1-1, MAC1-1, and SubNode are specified on each line in the order shown.

The following table describes the setting items in detail.

Table 2-1 Setting items of a management file

Item	Description
GroupID	Group ID of a power supply interlocking group Specify an integer value (decimal) from 1 to 32. All group IDs in one management file must be the same.
NodeID	Node ID of an interlocking device for power supply Specify an integer value (decimal) from 1 to 128. Each node ID in one management file must be unique.
NodeType	Node type of an interlocking device for power supply Specify any of the following values: 0x00: Host node, 0x01: Master host node, 0x10: I/O node, 0x20: Remote power distribution unit
NodeIdentName	Identifier of an interlocking device for power supply Specify the system GUID or a unique arbitrary character string. For the system GUID, specify a string of 32 consecutive digits as shown in the example. The value is handled as a hexadecimal number in a case-insensitive fashion. For the arbitrary character string, specify a hexadecimal number with up to 32 digits.
Linkage	Value (hexadecimal) representing power-on interlocking Specify any of the following values: 0x00: Disable, 0x01: Enable (On), 0x02: Enable (Off), 0x03: Enable (On + Off)
Operation	Value representing the power-on method Specify either of the following values: 0x00: IPMI, 0x01: WakeOnLAN
User	IPMI user name Specify nothing, and leave this field blank. If the field is not blank, the operation cannot be guaranteed.

Table 2-1 Setting items of a management file *(continued)*

Item	Description
Password	IPMI password Specify nothing, and leave this field blank.
IPAddress (IP0-0/IP0-1/IP1-0/IP1-1)	IP address of the IPMI port of a controller Specify an IPv4 address value with a character string.
SlaveAddress (Slave0-0/ Slave0-1/Slave1-0/Slave1-1)	Value (hexadecimal) representing the IPMI slave address of a controller Specify "0x20".
MAC Address (MAC0-0/ MAC0-1/MAC1-0/MAC1-1)	MAC address of the IPMI port of a controller Specify a MAC address value with a character string. Example: b0:99:28:98:18:2e A value must be set even though host nodes do not support power-on via Wake on LAN. In this case, a dummy value like the following may be used: Example: 00:00:00:00:00:00
SubNodeID	Character string representing the ID of the controlled subnode The field is a value from 0 to 31 or is left blank. Delimit the target subnode IDs (in decimal) with a comma (,), and enclose all of them in double quotation marks ("). A blank field indicates control of the whole node.

2.2.2 Checking the power supply interlocking settings

To check the contents of the power supply interlocking settings, use the showremotepwrmgmt command of the XSCF firmware.

```
XSCF> showremotepwrmgmt [-a|-G groupid [-N gnodeid]]
```

To check the status of all power supply interlocking settings, specify the -a option. To specify a power supply interlocking group, specify the -G groupid option. To specify a node of a power supply interlocking group, specify the -N gnodeid option.

2.2.3 Initializing the power supply interlocking settings

To initialize the contents of the power supply interlocking settings, use the clearremotepwrmgmt command of the XSCF firmware.

```
XSCF> clearremotepwrmgmt [-a|-G groupid]
```

To initialize the status of all power supply interlocking settings, specify the -a option. To specify a power supply interlocking group, specify a group ID in the -G option. If

-a and -G options are omitted, then the -a option is used by default.

2.2.4 Enabling/disabling the power supply interlocking function

To enable/disable the power supply interlocking function, use the setremotepwrmgmt command of the XSCF firmware.

```
XSCF> setremotepwrmgmt -c enable|disable
```

You can enable or disable the power supply interlocking function. To enable the power supply interlocking function, specify the -c enable option. To disable, specify the -c disable option.

2.2.5 Configuring a power supply interlocking group

To configure a power supply interlocking group using the management file, use the setremotepwrmgmt command of the XSCF firmware.

```
XSCF> setremotepwrmgmt -c config configuration_file
```

To configure a power supply interlocking group, specify -c config option. For configuration_file, specify the management file used for the settings.

2.2.6 Acquiring the setting information on a power supply interlocking group

To acquire the setting information on a power supply interlocking group, use the getremotepwrmgmt command of the XSCF firmware.

```
XSCF> getremotepwrmgmt -G groupid configuration_file
```

For groupid, specify the ID of the power supply interlocking group whose setting information is to be acquired. For configuration_file, specify the name of the management file for saving the acquired setting information.

Chapter 3

Examples of Power Supply Interlocking Configuration

This section describes how to configure the power supply interlocking in the following cases.

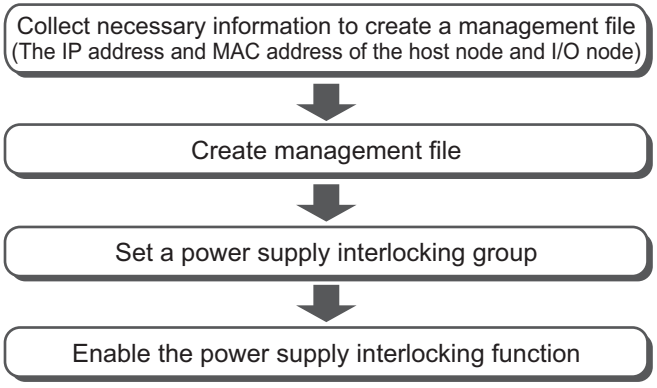
- Configuring the Power Supply Interlocking for the First Time
- Adding or Removing a Node in an Existing Power Supply Interlocking Group
- Maintaining I/O Node

3.1 Configuring the Power Supply Interlocking for the First Time

The following shows how to configure the power supply interlocking for the first time.

Note - If the existing settings for the power supply interlocking are valid, initialize the settings.

Figure 3-1 Flow of configuring the power supply interlocking for the first time



In the following sections, how to configure the power supply interlocking is described by using the system configurations below as examples.

- System that is configured with a host node and an I/O node
- System that is configured with a host node and a remote power distribution unit
- System that is configured with multiple host nodes and a remote power distribution unit
- System that is configured with host nodes, in which physical partitions (PPARs) are specified as subnodes, and a remote power distribution unit
- System in which multiple power supply interlocking groups are set

3.1.1 System that is configured with a host node and an I/O node

This section describes how to configure the power supply interlocking by using a system that is configured with one SPARC M10-1 as a host node and one ETERNUS DX80 S2 as an I/O node as an example.

1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the power supply interlocking will be configured. Based on the collected information, create a management file in CSV format for each power supply interlocking group. The line feed code is LF or CR+LF.

   ETERNUS DX80 S2 supports multiple controllers. The system can be operated by setting a different IP address per controller or by setting the same IP address. (For details, see the manuals for ETERNUS.) When the system is operated by setting the same IP address for multiple controllers, set the same IP address to IP0-0 and IP1-0 or IP0-1 and IP1-1.

   However, IP0-1 cannot be set without setting IP0-0. Similarly, IP1-1 cannot be set without setting IP1-0. Select IP0-0/IP0-1 or IP1-0/IP1-1 based on the LAN port of the SPARC M10 system to be connected and the type of controller used in the ETERNUS. For example, when connecting to LAN#0 of the XSCF, set the LAN of CM#0 to IP0-0 and the LAN of CM#1 to IP1-0.

   At least one master host node must be configured. When only one master host node is configured, the operation does not change if "0x00: Disable," "0x01: Enable (On)," "0x02: Enable (Off)," or "0x03:Enable (On + Off)" is set in the Linkage settings. However, "0x00: Disable" or " 0x01: Enable (On)" should be set.

Figure 3-2 System that is configured with a host node and an I/O node

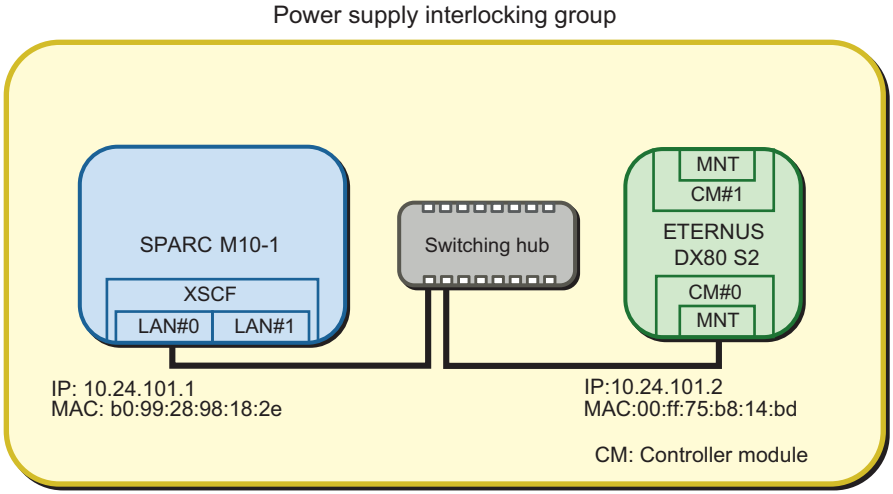


Table 3-1 Setting values of the management file (SPARC M10-1)

Item	Setting value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:18:2e	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	

Table 3-1 Setting values of the management file (SPARC M10-1) *(continued)*

Item	Setting value	Remarks
MAC1-1	Blank	
SubNode	Blank	

Table 3-2 Setting values of the management file (ETERNUS DX80 S2)

Item	Setting value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bd	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

- Configure as follows when operating the system by setting a different IP address for each controller using CM#0 and CM#1 of the ETERNUS DX80 S2.

Figure 3-3 System in which a different IP address are specified for multiple controllers of I/O nodes

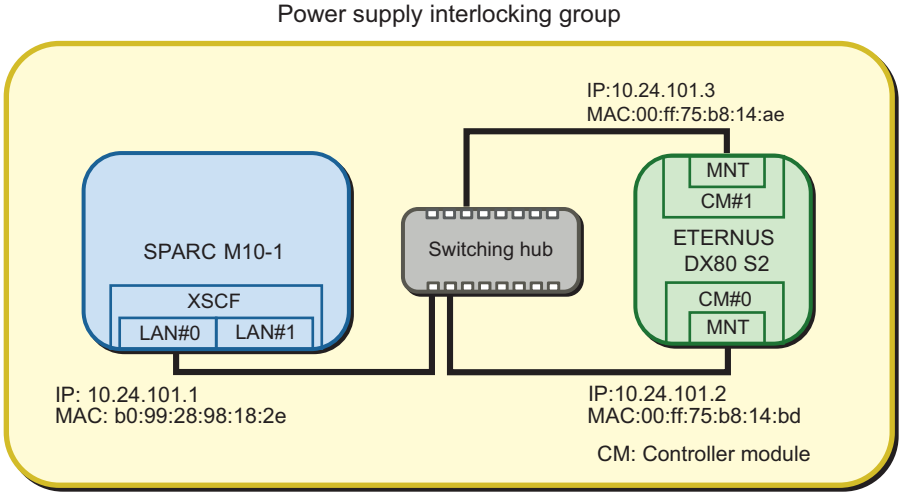


Table 3-3 Setting values of the management file (ETERNUS DX80 S2) (*1)

Item	Setting value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bd	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	10.24.101.3	
Slave1-0	0x20	Fixed value
MAC1-0	00:ff:75:b8:14:ae	
IP1-1	Blank	

Table 3-3 Setting values of the management file (ETERNUS DX80 S2) (*1) *(continued)*

Item	Setting value	Remarks
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

*1 A colored line indicates that the setting is different from the original setting.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,10.24.101.3,0x20,00:ff:75:b8:14:ae,,,,
```

- Configure as follows when operating the system by setting the same IP address for multiple controllers using CM#0 and CM#1 of the ETERNUS DX80 S2.

Figure 3-4 System in which the same IP address is specified for multiple controllers of the I/O node

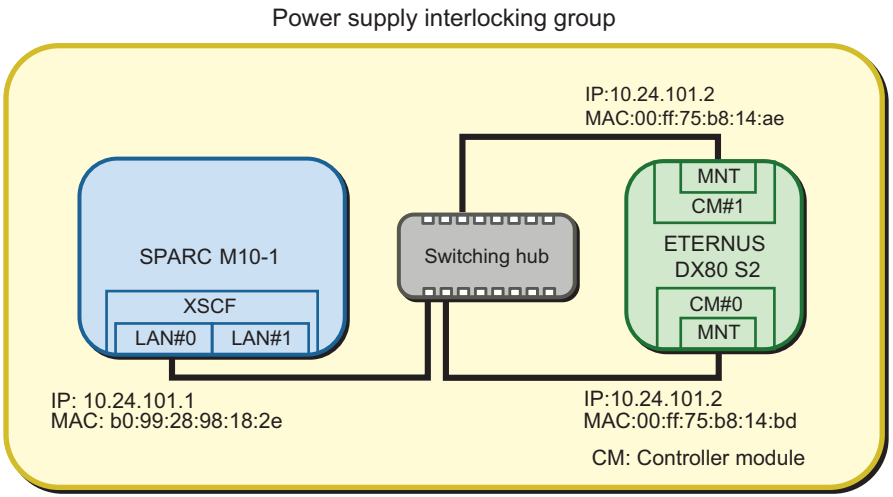


Table 3-4 Setting values of the management file (ETERNUS DX80 S2) (*1)

Item	Setting value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x10	I/O node

Table 3-4 Setting values of the management file (ETERNUS DX80 S2) (*1) *(continued)*

Item	Setting value	Remarks
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bd	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	10.24.101.2	
Slave1-0	0x20	Fixed value
MAC1-0	00:ff:75:b8:14:ae	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

*1 A colored line indicates that the setting is different from the original setting.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,10.24.101.2,0x20,00:ff:75:b8:14:ae,,,,,
```

- Configure as follows when using XSCF-LAN#0 and XSCF-LAN#1 in the 4BB configuration of the SPARC M10-4S.
  XSCF-LAN#0 and XSCF-LAN#1 are connected to switches. Though the ETERNUS is connected with the same subnet as LAN#0, it is connected to LAN#1 of the SPARC M10-4S via a router.

Figure 3-5 System in which XSCF-LAN#0 and XSCF-LAN#1 of SPARC M10-4S are used

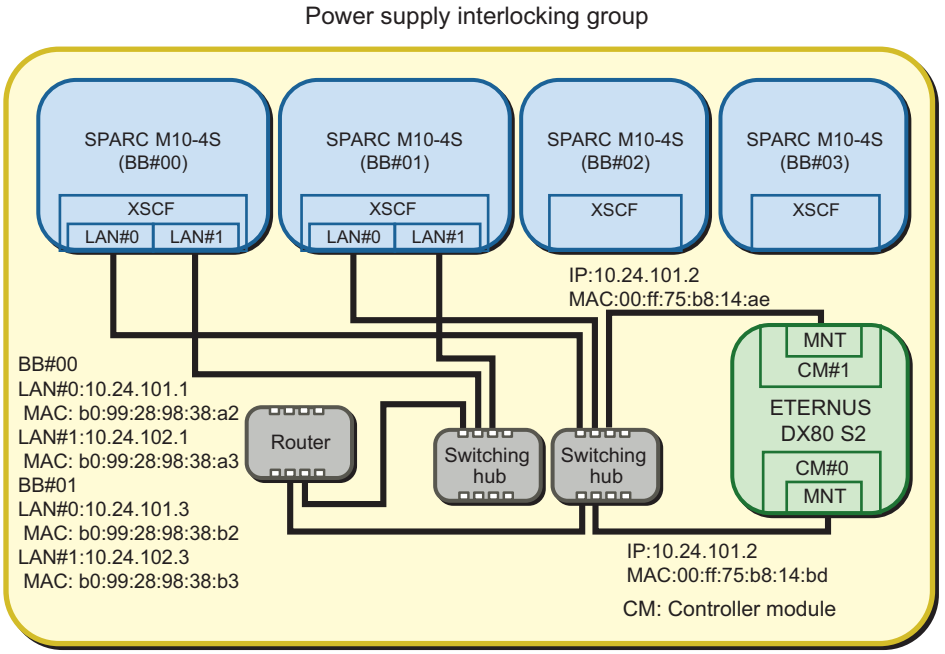


Table 3-5 Setting values of the management file (SPARC M10-4S)

Item	Setting value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:a2	
IP0-1	10.24.102.1	
Slave0-1	0x20	Fixed value
MAC0-1	b0:99:28:98:38:a3	
IP1-0	10.24.101.3	

Table 3-5 Setting values of the management file (SPARC M10-4S) *(continued)*

Item	Setting value	Remarks
Slave1-0	0x20	Fixed value
MAC1-0	b0:99:28:98:38:b2	
IP1-1	10.24.102.3	
Slave1-1	0x20	Fixed value
MAC1-1	b0:99:28:98:38:b3	
SubNode	Blank	

Table 3-6 Setting values of the management file (ETERNUS DX80 S2) (*1)

Item	Setting value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bd	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	10.24.101.2	
Slave1-0	0x20	Fixed value
MAC1-0	00:ff:75:b8:14:ae	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

*1 A colored line indicates that the setting is different from the original setting.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:38:a2,10.24.102.1,0x20,b0:99:28:98:38:a3,10.24.101.3,0x20,b0:
99:28:98:38:b2,10.24.102.3,0x20,b0:99:28:98:38:b3,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,10.24.101.2,0x20,00:ff:75:b8:14:ae,,,,
```

2. **Configure a power supply interlocking group using the created management file.**

   a. **Execute the showremotepwrmgmt command to confirm that the power supply interlocking is not configured.**

   Check it by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is configured. When configuring the power supply interlocking for the first time, it is normally assumed that the power supply interlocking is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

   If the existing settings for the power supply interlocking are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

   b. **Execute the setremotepwrmgmt command to set a power supply interlocking group.**

   Execute this step by logging into the XSCF shell of the master host node in the power supply interlocking group.

   Specify the management file created in step 1 and configure a power supply interlocking group.

   Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

   1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

   The USB port must be FAT32 format.

   The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   2) **Execute the setremotepwrmgmt command to set a power supply interlocking group**.

   If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ---------------------- --
---------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 Enable
WakeUpOnLAN
------ ----------- --------------------------------- ---------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

3. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**
   Execute this step for all host nodes and master host nodes where the power supply interlocking is set.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- --------------------------------- ----- --------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
------ ----------- --------------------------------- ----- --------------------
--- -----------
```

3.1.2 System that is configured with a host node and a remote power distribution unit

This section describes how to configure the power supply interlocking by using a system that is configured with one SPARC M10-4 and one remote power distribution unit as an example. The basic setting process is the same as written in "3.1.1 System that is configured with a host node and an I/O node."

1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the power supply interlocking will be configured. Based on the collected information, create a management file in CSV format for each power supply interlocking group. The line feed code is LF or CR+LF.

   The remote power distribution unit supports the power supply interlocking using IPMI. By connecting to an I/O device that does not support the power supply interlocking using the WAKE on LAN through the IPMI, the power-on and power-off actions between the SPARC M10 system and the device can be interlocked.

   When connecting to an I/O device with multiple controllers, redundancy can be increased by connecting a remote power distribution unit to each controller. In this case, when setting the management file of a power supply interlocking group, set multiple remote power distribution units as one I/O node.

   Up to eight I/O devices can be connected to one remote power distribution unit. When setting a remote power distribution unit to a power supply interlocking group, set them as one I/O node in the management file regardless of how many I/O devices are connected to the remote power distribution unit.

   Set "0x00 (IPMI)" for the Operation setting of the remote power distribution unit.

   At least one master host node must be configured. Set "0x00: Disable" or "0x01: Enable (On)" for the Linkage setting of a host node. The operation does not change if "0x00: Disable," "0x01: Enable (On)," "0x02: Enable (Off)," or "0x03: Enable (On + 0ff)" is set.

   - In the following, how to configure the power supply interlocking is described based on the configuration below.
     - Use only XSCF-LAN#0 of SPARC M10-4
     - Use the system by connecting one I/O device to a remote power distribution unit
     - Interlock the power-on and power-off actions of a remote power distribution unit

Figure 3-6 System that is configured with a host node and a remote power distribution unit

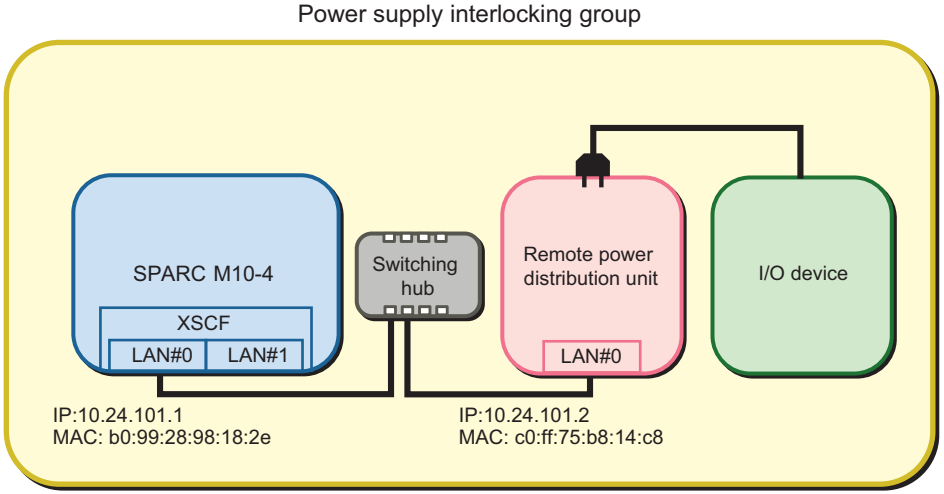


Table 3-7 Setting values of the management file (SPARC M10-4)

Item	Setting value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:18:2e	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	

Table 3-7 Setting values of the management file (SPARC M10-4) *(continued)*

Item	Setting value	Remarks
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-8 Setting values of the management file (remote power distribution unit)

Item	Setting value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

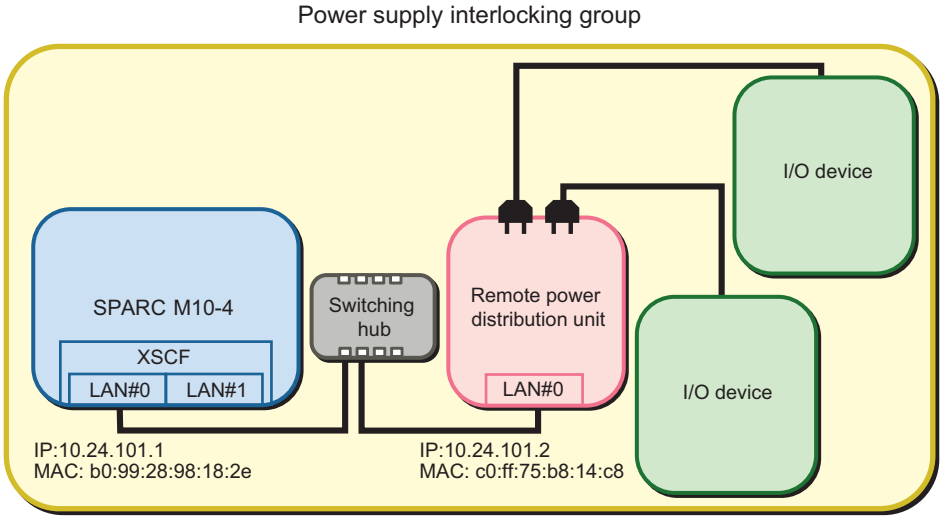
The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x20,0123456789abcdef0000000000000002,0x03,0x00,,,10.24.101.2,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
```

- Even when multiple I/O devices are connected to a remote power distribution

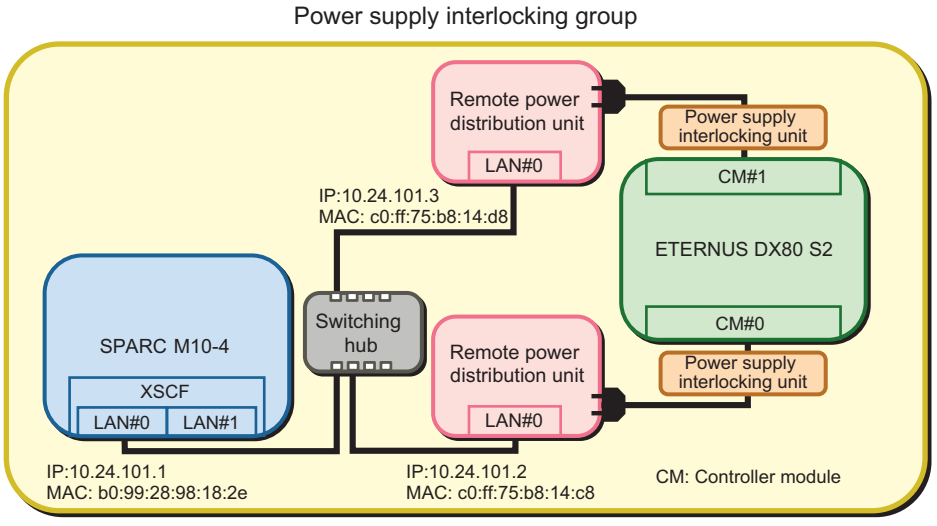
unit, set the power supply interlocking as written in "3.1.1 System that is configured with a host node and an I/O node."

Figure 3-7 System in which multiple I/O devices are connected to a remote power distribution unit



- Set as follows when the multiple controllers of an I/O device in the system each connect to a remote power distribution unit.

Figure 3-8 System in which the multiple controllers of an I/O device each connect to a remote power distribution unit



Note - If a model that is older than ETERNUS DXxx S2 is used with the firmware that was updated earlier than December 2012, an interlocking unit for power supply needs to be set between the ETERNUS and a remote power distribution unit.

Table 3-9 Setting values of the management file (remote power distribution unit that is connected to CM#0)

Item	Setting value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	Fixed value
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-10 Setting values of the management file (remote power distribution unit that is connected to CM#1)

Item	Setting value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions

Table 3-10 Setting values of the management file (remote power distribution unit that is connected to CM#1) *(continued)*

Item	Setting value	Remarks
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:d8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	Fixed value
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x20,0123456789abcdef0000000000000002,0x03,0x00,,,10.24.101.2,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
1,3,0x20,0123456789abcdef0000000000000003,0x03,0x00,,,10.24.101.3,
0x20,c0:ff:75:b8:14:d8,,,,,,,,,
```

2. **Configure a power supply interlocking group using the created management file.**
   a. **Execute the showremotepwrmgmt command to confirm that the power supply interlocking is not configured.**

      Check it by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is configured. When configuring the power supply interlocking for the first time, it is normally assumed that the power supply interlocking is not set.

      In the following example, the power supply interlocking is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

If the existing settings for the power supply interlocking are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

b. **Execute the setremotepwrmgmt command to set a power supply interlocking group.**

Execute this step by logging into the XSCF shell of the master host node in the power supply interlocking group.

Specify the management file created in step 1 and configure a power supply interlocking group.

Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

2) **Execute the setremotepwrmgmt command to set a power supply interlocking group**.

If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- -------------------------------- ---------------------- --
---------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    PwrLinkBox  0123456789abcdef0000000000000002 Enable                 IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 Enable                 IPMI
------ ----------- -------------------------------- ---------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

3. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**
Execute this step for all host nodes and master host nodes where the power supply interlocking is set.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- --------------------------------- ----- -------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    PwrLinkBox  0123456789abcdef0000000000000002 OFF   Enable
   IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 OFF   Enable
   IPMI
------ ----------- --------------------------------- ----- -------------------
--- -----------
```

3.1.3 System that is configured with multiple host nodes and a remote power distribution unit

This section describes how to configure the power supply interlocking by using a system that is configured with four SPARC M10-4 systems and a remote power distribution unit.
The basic process is the same as written in "3.1.1 System that is configured with a host node and an I/O node."

1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the power supply interlocking will be configured. Based on the collected information, create a management file in CSV format for each power supply interlocking group. The line feed code is LF or CR+LF.

   When connecting multiple host nodes, up to two master host nodes can be set. This helps to increase redundancy.

   If "Off" is specified to the Linkage setting between a host node and master node, the power-off actions are not interlocked.

   To enable the interlocking between the power-on actions of the host nodes, set "0x01: Enable (On)" to the Linkage setting. The operation does not change if "0x03: Enable (On + Off)" is set.

   To disable the interlocking between power on actions in the SPARC M10

systems, set "0x00: Disable" to the Linkage setting. The operation does not change if "0x02: Enable (Off)" is set.

- In the following, how to configure the power supply interlocking is described based on the configuration below.
  - Use only XSCF-LAN#0 of SPARC M10-4
  - Set the first and second SPARC M10-4 systems as master host nodes
  - Use one I/O device by connecting it to a remote power distribution unit The I/O device can be shared by the connected SPARC M10-4 systems.
  - Interlock between power-on and power-off actions (only interlocking between power-on actions can be enabled for the host nodes)

Figure 3-9 System that is configured with multiple host nodes and a remote power distribution unit

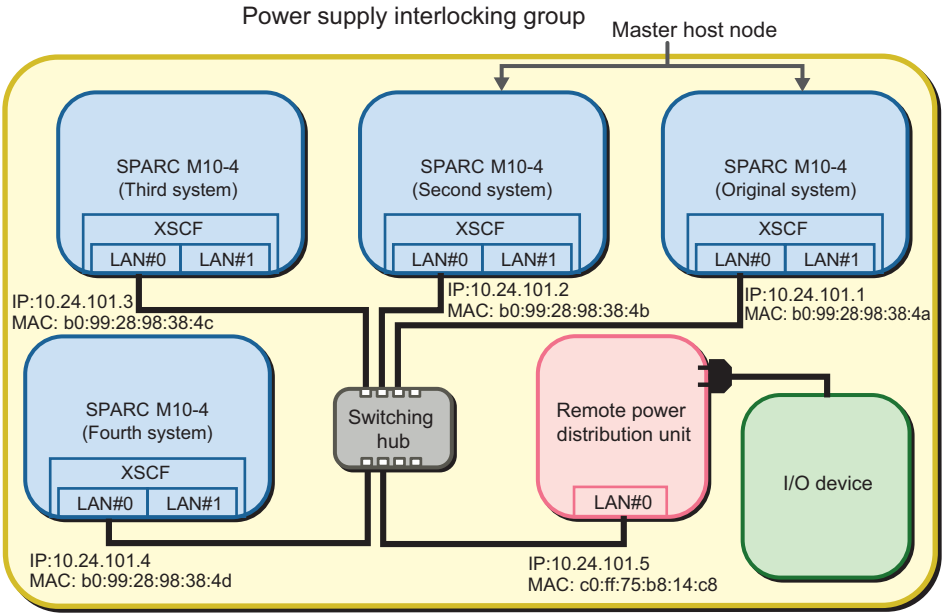


Table 3-11 Setting values of the management file (SPARC M10-4 (first))

Item	Setting value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI

Table 3-11 Setting values of the management file (SPARC M10-4 (first)) *(continued)*

Item	Setting value	Remarks
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4a	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-12 Setting values of the management file (SPARC M10-4 (second))

Item	Setting value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4b	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	

Table 3-12 Setting values of the management file (SPARC M10-4 (second)) *(continued)*

Item	Setting value	Remarks
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-13 Setting values of the management file (SPARC M10-4 (third))

Item	Setting value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x00	Host node
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4c	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-14 Setting values of the management file (SPARC M10-4 (fourth))

Item	Setting value	Remarks
GroupID	1	
NodeID	4	

Table 3-14 Setting values of the management file (SPARC M10-4 (fourth)) *(continued)*

Item	Setting value	Remarks
NodeType	0x00	Host node
NodeIdentName	0123456789abcdef0000000000000004	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.4	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4d	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-15 Setting values of the management file (remote power distribution unit)

Item	Setting value	Remarks
GroupID	1	
NodeID	5	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000005	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.5	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	

Table 3-15 Setting values of the management file (remote power distribution unit) *(continued)*

Item	Setting value	Remarks
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:38:4a,,,,,,,,,
1,2,0x01,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:38:4b,,,,,,,,,
1,3,0x00,0123456789abcdef0000000000000003,0x01,0x00,,,10.24.101.3,
0x20,b0:99:28:98:38:4c,,,,,,,,,
1,4,0x00,0123456789abcdef0000000000000004,0x01,0x00,,,10.24.101.4,
0x20,b0:99:28:98:38:4d,,,,,,,,,
1,5,0x20,0123456789abcdef0000000000000005,0x03,0x00,,,10.24.101.5,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
```

2. **Configure a power supply interlocking group using the created management file.**
   a. **Execute the showremotepwrmgmt command to confirm that the power supply interlocking is not configured.**

      Check it by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is configured. When configuring the power supply interlocking for the first time, it is normally assumed that the power supply interlocking is not set.

      In the following example, the power supply interlocking is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

      If the existing settings for the power supply interlocking are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

b. **Execute the setremotepwrmgmt command to set a power supply interlocking group.**

Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

Download the management file created in step 1 with the setremotepwrmgmt command of the XSCF firmware.

Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

2) **Execute the setremotepwrmgmt command to set a power supply interlocking group**.

If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ---------------------- --
---------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 Enable(Power-On Link)  IPMI
003    HOST        0123456789abcdef0000000000000003 Enable(Power-On Link)  IPMI
004    HOST        0123456789abcdef0000000000000004 Enable(Power-On Link)  IPMI
005    PwrLinkBox  0123456789abcdef0000000000000005 Enable                 IPMI
------ ----------- --------------------------------- ---------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

3. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**
Execute this step for all host nodes and master host nodes where the power supply interlocking is set.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

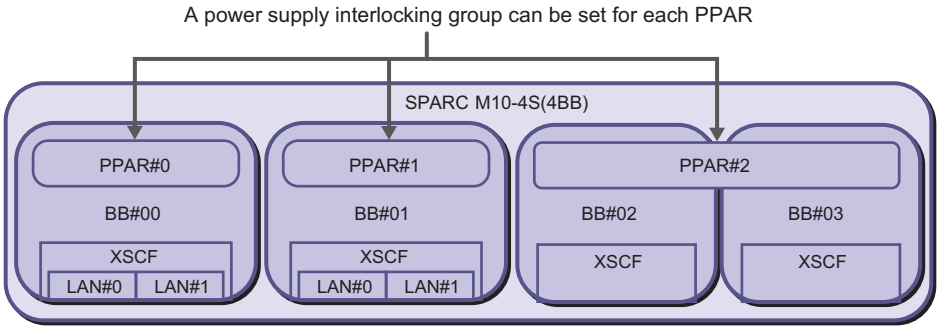
Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                      Power PowerLinkage
   Operation
------ ----------- ---------------------------------- ----- ------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    HOST        0123456789abcdef0000000000000003 OFF   Enable(Power-On
Link)  IPMI
004    HOST        0123456789abcdef0000000000000004 OFF   Enable(Power-On
Link)  IPMI
005    PwrLinkBox  0123456789abcdef0000000000000005 OFF   Enable
   IPMI
------ ----------- ---------------------------------- ----- ------------------
--- -----------
```

3.1.4 System that is configured with host nodes, in which physical partitions (PPARs) are specified as subnodes, and a remote power distribution unit

This section describes how to configure the power supply interlocking by using a system that is configured with one SPARC M10-4, multiple SPARC M10-4S with physical partitions (PPAR#0 and PPAR#1), and one remote power distribution unit. If multiple physical partitions are set in the SPARC M10-4S systems, a power supply interlocking group can be set for each physical partition by specifying the physical partition as a subnode.
The basic process is the same as written in "3.1.1 System that is configured with a host node and an I/O node."

Figure 3-10 Setting of a power supply interlocking group for each physical partition



1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the power supply interlocking will be configured. Based on the collected information, create a management file in CSV format for each power supply interlocking group. The line feed code is LF or CR+LF.

   By specifying any physical partition in the master host nodes and host nodes, a physical partition can be assigned to a power supply interlocking group as a subnode.

   A SubNodeID is specified by separating the PPAR-ID (any decimal number from 0 to 31), which is specified as a subnode, with a comma (,), and by enclosing all of them in double quotation marks (").

   - In the following, how to configure the power supply interlocking is described based on the configuration below.
     - Use only XSCF-LAN#0 of SPARC M10-4/M10-4S
     - Set the power supply interlocking only to PPAR#0 and PPAR#1 of the SPARC M10-4S system
     - Use one I/O device by connecting it to a remote power distribution unit
     - Interlock between power-on and power-off actions (only interlocking between power-on actions can be enabled for the host nodes)

Figure 3-11 Setting of a power supply interlocking group for the system with subnodes

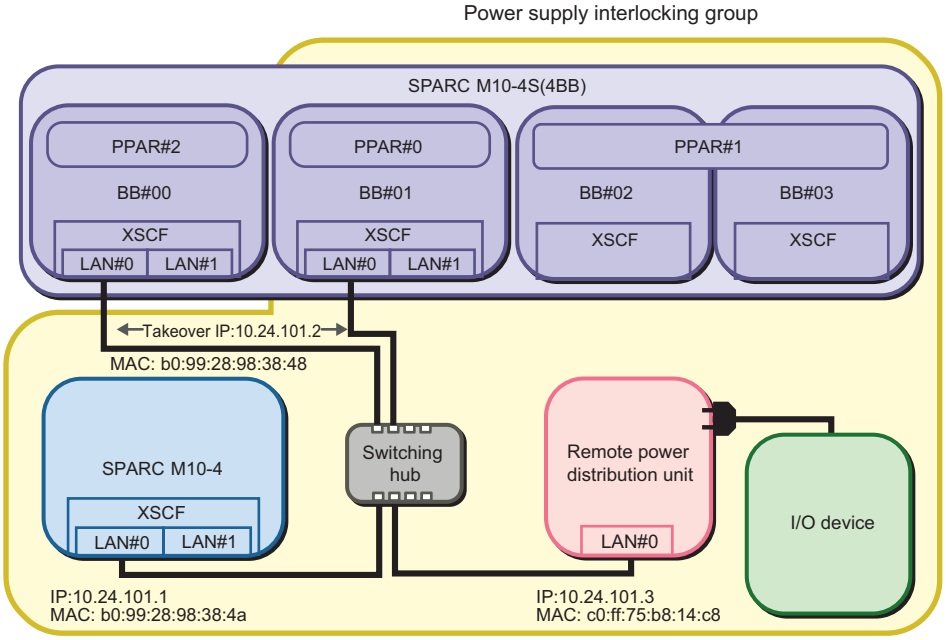


Table 3-16 Setting values of the management file (SPARC M10-4)

Item	Setting value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4a	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	

Table 3-16 Setting values of the management file (SPARC M10-4) *(continued)*

Item	Setting value	Remarks
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-17 Setting values of the management file (SPARC M10-4S) (*1)

Item	Setting value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	XSCF network takeover IP address
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:48	Specifies any of the MAC addresses of the SPARC M10-4S in the physical partitions
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	"0, 1"	

*1 A colored line indicates a setting that is different from the setting of the host node when it is set as a subnode.

Table 3-18 Setting values of the management file (remote power distribution unit)

Item	Setting value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:38:4a,,,,,,,,,
1,2,0x01,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:38:48,,,,,,,,,,"0,1"
1,3,0x20,0123456789abcdef0000000000000003,0x03,0x00,,,10.24.101.3,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
```

2. **Configure a power supply interlocking group using the created management file.**
   a. **Execute the showremotepwrmgmt command to confirm that the power supply interlocking is not configured.**

      Check it by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is configured. When configuring the power supply interlocking for the first time, it is normally assumed that

the power supply interlocking is not set.

In the following example, the power supply interlocking is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

If the existing settings for the power supply interlocking are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

b. **Execute the setremotepwrmgmt command to set a power supply interlocking group.**

Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

Download the management file created in step 1 with the setremotepwrmgmt command of the XSCF firmware.

Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

2) **Execute the setremotepwrmgmt command to set a power supply interlocking group**.

If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ---------------------- --
---------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 Enable(Power-On Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000005 Enable                 IPMI
------ ----------- --------------------------------- ---------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
```

```
XSCF>
```

3. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**
   Execute this step for all host nodes and master host nodes where the power supply interlocking is set.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command. The current setting details of a subnode of the specified node can be checked with the showremotepwrmgmt command specified with the group and node.

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                      Power PowerLinkage
   Operation
------ ----------- -------------------------------- ----- -------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 OFF   Enable
   IPMI
------ ----------- -------------------------------- ----- -------------------
--- -----------

XSCF> setremotepwrmgmt -G 1 -N 2
Remote Power Management Group Information
  GroupID                         :[01]
  Remote Power Management Status :[Enable]
  NodeID                          :[002]
  NodeType                        :[Master HOST]
  NodeIdentName                   :[0123456789abcdef0000000000000002]
  PowerLinkage                    :[Enable(Power-On Link)]
  Operation                       :[IPMI]
Power Status Information
  Node#002                        :[ON]
    SubNode#00 :[ON]
    SubNode#01 :[ON]
IPMI Information
  IPMI UserName :[pwm]
Controller#0
  LAN#0
  IPMI IP address :[10.24.101.2]
```

```
   IPMI SlaveAddress :[20]
   IPMI MAC Address :[b0:99:28:98:38:48]
XSCF>
```

3.1.5 System in which multiple power supply interlocking groups are set

If multiple physical partitions (PPARs) are set in the SPARC M10-4S system, each physical partition can be set to a different power supply interlocking group.
This section describes how to configure the power supply interlocking by using a configuration in which a system that is configured with one SPARC M10-4, SPARC M10-4S with physical partitions (PPAR#0, PPAR#1, PPAR#2, and PPAR#3), and two remote power distribution units is divided into two groups as an example.

- Group 1: SPARC M10-4 x 1, PPAR#0 and PPAR#1 in SPARC M10-4S, Remote power distribution unit x 1
- Group 2: PPAR#2 and PPAR#3 in SPARC M10-4, Remote power distribution unit x 1

The basic setting process is the same as written in "3.1.1 System that is configured with a host node and an I/O node." However, multiple power supply interlocking groups must be set.

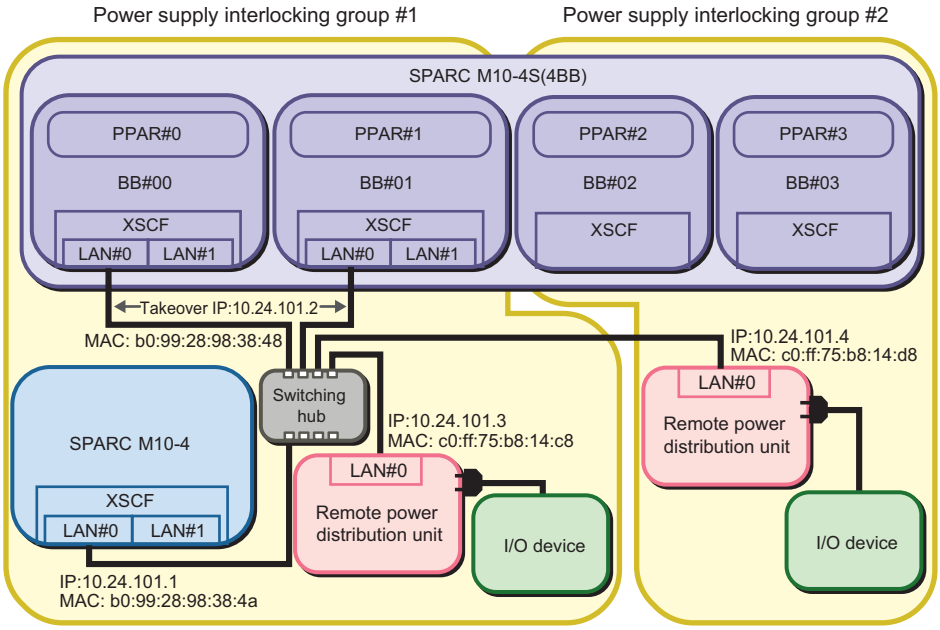
1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the power supply interlocking will be configured. Based on the collected information, create a management file in CSV format for each power supply interlocking group. The line feed code is LF or CR+LF.

   When multiple power supply interlocking groups are set, a management file must be created for each power supply interlocking group. For details of the items, see "3.1.2 System that is configured with a host node and a remote power distribution unit."

   Set a unique "GroupID" for the management file of each power supply interlocking group.

   - In the following, how to configure the power supply interlocking is described based on the configuration below.
     - Use only XSCF-LAN#0 of SPARC M10-4/M10-4S
     - Set the power supply interlocking by classifying the entire SPARC M10-4 and PPAR#0 and PPAR#1 of the SPARC M10-4S system as group 1
     - Set the power supply interlocking by classifying PPAR#2 and PPAR#3 of the SPARC M10-4S system as group 2
     - Use the system by connecting one I/O device to a remote power distribution unit
     - Interlock between power-on and power-off actions (only interlocking between power-on actions can be enabled for the host nodes)

Figure 3-12 Configuration of a system in which multiple power supply interlocking groups are set



- Setting of the power supply interlocking group 1

Table 3-19 Setting values of the management file for group 1 (SPARC M10-4)

Item	Setting value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4a	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	

Table 3-19 Setting values of the management file for group 1 (SPARC M10-4) *(continued)*

Item	Setting value	Remarks
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-20 Setting values of the management file for group 1 (SPARC M10-4S) (*1)

Item	Setting value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:48	Specifies any of the MAC addresses of the SPARC M10-4S in the physical partitions
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	"0, 1"	

*1 A colored line indicates a setting that is different from the setting of the host node when it is set as a subnode.

Table 3-21 Setting values of the management file for group 1 (remote power distribution unit x 1)

Item	Setting value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:38:4a,,,,,,,,,
1,2,0x01,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:38:48,,,,,,,,,"0,1"
1,3,0x20,0123456789abcdef0000000000000003,0x03,0x00,,,10.24.101.3,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
```

- Setting of the power supply interlocking group 2

Table 3-22 Setting values of the management file for group 2 (SPARC M10-4S) (*1)

Item	Setting value	Remarks
GroupID	2	
NodeID	1	

Table 3-22 Setting values of the management file for group 2 (SPARC M10-4S) (*1) *(continued)*

Item	Setting value	Remarks
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000004	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	Specifies the takeover IP address of a system that is configured with multiple SPARC M10-4S
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:48	Specifies any of the MAC addresses of the SPARC M10-4S in the physical partitions
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	"2, 3"	

*1 A colored line indicates a setting that is different from the setting of the host node when it is set as a subnode.

Table 3-23 Setting values of the management file for group 2 (remote power distribution unit x 1)

Item	Setting value	Remarks
GroupID	2	
NodeID	2	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000005	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.4	

Table 3-23 Setting values of the management file for group 2 (remote power distribution unit x 1) *(continued)*

Item	Setting value	Remarks
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:d8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The CSV file for group 2 is created as follows.

```
2,1,0x01,0123456789abcdef0000000000000004,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:38:48,,,,,,,,,"2,3"
2,2,0x20,0123456789abcdef0000000000000005,0x03,0x00,,,10.24.101.4,
0x20,c0:ff:75:b8:14:d8,,,,,,,,,
```

2. **Configure a power supply interlocking group using the created management file.**

   a. **Execute the showremotepwrmgmt command to confirm that the power supply interlocking is not configured.**

   Check it by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is configured. When configuring the power supply interlocking for the first time, it is normally assumed that the power supply interlocking is not set.

   In the following example, the power supply interlocking is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

   If the existing settings for the power supply interlocking are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

   b. **Execute the setremotepwrmgmt command to set a power supply**

interlocking group.

Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

Specify the management file created in step 1 and configure a power supply interlocking group.

Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

   The USB port must be FAT32 format.

   The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

2) **Execute the setremotepwrmgmt command to set a power supply interlocking group**.

   If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

- Setting of the power supply interlocking group 1

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ---------------------- --
---------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 Enable(Power-On Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 Enable                 IPMI
------ ----------- --------------------------------- ---------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

- Setting of the power supply interlocking group 2

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-2.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :02
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ---------------------- --
```

```
---------
001    Master HOST 0123456789abcdef0000000000000004 Enable(Power-On Link)  IPMI
002    PwrLinkBox  0123456789abcdef0000000000000005 Enable                 IPMI
------ ----------- -------------------------------- -------------------- --
---------

Continue? [y|n]: y
The command completed successfully.
XSCF>
```

3. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**

   Execute this step for all host nodes and master host nodes where the power supply interlocking is set.

   This step does not need to be done for host nodes and master host nodes in each group if they are registered in multiple power supply interlocking groups. Executing this command once will enable the power supply interlocking function for the multiple power supply interlocking groups.

   Enable the power supply interlocking function by logging in to the master XSCF for each SPARC M10 system and executing the command.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

- Example of executing from the host node that belongs to the power supply interlocking group 1 (SPARC M10-4)

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- -------------------------------- ----- -------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 OFF   Enable
   IPMI
------ ----------- -------------------------------- ----- -------------------
--- -----------
```

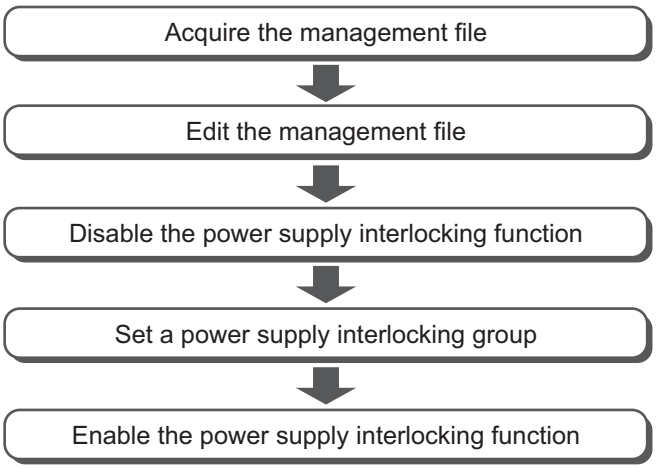
- Example of executing from the host node that belongs to the power supply interlocking groups 1 and 2

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType NodeIdentName Power PowerLinkage Operation
------ ---------- -------------------------------- ----- --------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 OFF   Enable
   IPMI
------ ---------- -------------------------------- ----- --------------------
--- -----------
[Remote Power Management Group#02 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                    Power PowerLinkage
   Operation
------ ---------- -------------------------------- ----- --------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000004 OFF   Enable(Power-On
Link)  IPMI
002    PwrLinkBox  0123456789abcdef0000000000000005 OFF   Enable
   IPMI
------ ---------- -------------------------------- ----- --------------------
--- -----------
```

3.2 Adding or Removing a Node in an Existing Power Supply Interlocking Group

The following shows how to add or remove a node in an existing power supply interlocking group.

Figure 3-13 Flow when adding/removing a node in an existing power supply interlocking group



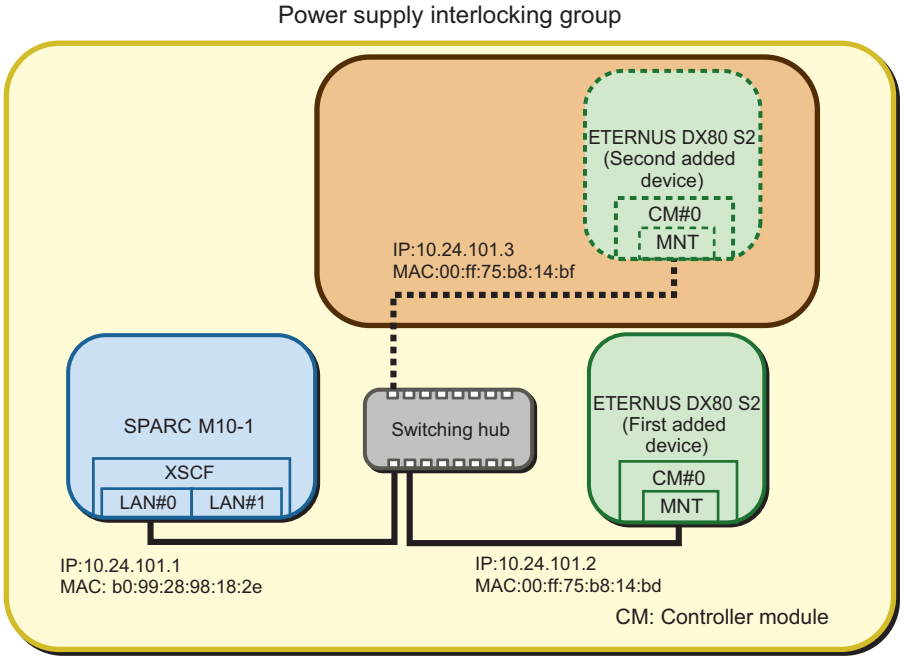
In the following sections, how to configure the power supply interlocking is described by using the system configurations below as examples.

- Adding an I/O node
- Adding a host node
- Removing an I/O node
- Removing a host node

3.2.1 Adding an I/O node

This section describes how to configure the power supply interlocking by using a case in which one ETERNUS DX80 S2 is added to a system that is configured with one SPARC M10 system and one ETERNUS DX80 S2 as an example. The basic setting process is the same as written in "3.1.1 System that is configured with a host node and an I/O node." Collect the IP address and MAC address of the I/O node to be added, to edit the management table.
The MAC address of the RCIL host node must be set to all LANs used (entry that sets the IP address to IP0-0/IP0-1/IP1-0/IP1-1).

Figure 3-14 Adding an I/O node



1. **Acquire the management file of a power supply interlocking group.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   After checking the group ID of the power supply interlocking group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check that the group ID of the power supply interlocking group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- --------------------------------- ----- --------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
------ ----------- --------------------------------- ----- --------------------
--- -----------
```

Execute the following steps to download the management file of the power

supply interlocking group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the power supply interlocking group.**
Make changes to the management file of the power supply interlocking group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Assume that the management file of the power supply interlocking group that is acquired in step 1 has the following values.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

Table 3-24 Setting values of the ETERNUS DX80 S2 to be added

Item	Setting value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x10	I/O node

Table 3-24 Setting values of the ETERNUS DX80 S2 to be added *(continued)*

Item	Setting value	Remarks
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bf	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

After changing the management file, it will be as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:bf,,,,,,,,,
```

3. **Disable the power supply interlocking function.**
   To reset the power supply interlocking group using the changed management file, the power supply interlocking function set for all the host nodes and master nodes in the power supply interlocking group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is set.

Note - If multiple host nodes exist in the power supply interlocking group that is currently set, disable the power supply interlocking function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Reset the power supply interlocking group using the management file of the power supply interlocking edited in step 2.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   b. **Execute the setremotepwrmgmt command to set the management file of the power supply interlocking group.**

      If the settings of the downloaded management file is as expected, enter "y" to "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ---------------------- --
---------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 Enable
WakeUpOnLAN
003    I/O         0123456789abcdef0000000000000003 Enable
WakeUpOnLAN
------ ----------- --------------------------------- ---------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

5. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**
   Execute this step for all host nodes and master host nodes where the power supply interlocking is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

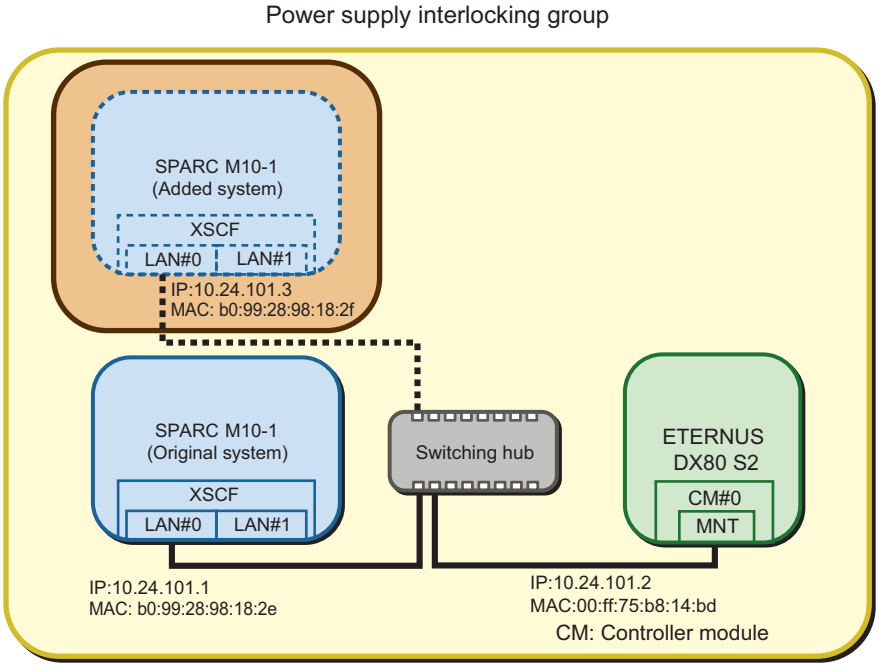
Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- -------------------------------- ----- -------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
 ------ ----------- -------------------------------- ----- ------------------
---- -----------
```

3.2.2 Adding a host node

This section describes how to configure the power supply interlocking by using a case in which one SPARC M10-1 is added to a system that is configured with one SPARC M10-1 and one ETERNUS DX80 S2 as an example. The basic setting process is the same as written in "3.2.1 Adding an I/O node." Add the setting to the management table by checking the IP address of a host node to be added. Up to two host nodes can be set as master host nodes in the same power supply interlocking group. If two or more host nodes are connected, we recommend to set two master host nodes.

Figure 3-15 Adding a host node



1. **Acquire the management file of a power supply interlocking group.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   After checking the group ID of the power supply interlocking group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check that the group ID of the power supply interlocking group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- --------------------------------- ----- -------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
------ ----------- --------------------------------- ----- -------------------
--- -----------
```

Execute the following steps to download the management file of the power

supply interlocking group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the power supply interlocking group.**
Make changes to the management file of the power supply interlocking group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Assume that the management file of the power supply interlocking group that is acquired in step 1 has the following values.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

Table 3-25 Setting values of the SPARC M10-1 to be added

Item	Setting value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x01	Master host node

Table 3-25 Setting values of the SPARC M10-1 to be added *(continued)*

Item	Setting value	Remarks
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:18:2f	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
1,3,0x01,0123456789abcdef0000000000000003,0x01,0x00,,,10.24.101.3,
0x20,b0:99:28:98:18:2f,,,,,,,,,
```

3. **Disable the power supply interlocking function.**
   To reset the power supply interlocking group using the changed management file, the power supply interlocking function set for all the host nodes and master nodes in the power supply interlocking group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is set.

Note - If multiple host nodes exist in the power supply interlocking group that is currently set, disable the power supply interlocking function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Reset the power supply interlocking group using the management file of the power supply interlocking edited in step 2.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   b. **Execute the setremotepwrmgmt command to set the management file of the power supply interlocking group.**

      If the settings of the downloaded management file is as expected, enter "y" to "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ---------------------- --
---------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 Enable
WakeUpOnLAN
003    Master HOST 0123456789abcdef0000000000000003 Enable(Power-On Link)  IPMI
------ ----------- --------------------------------- ---------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

5. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**
   Execute this step for all host nodes and master host nodes where the power supply interlocking is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

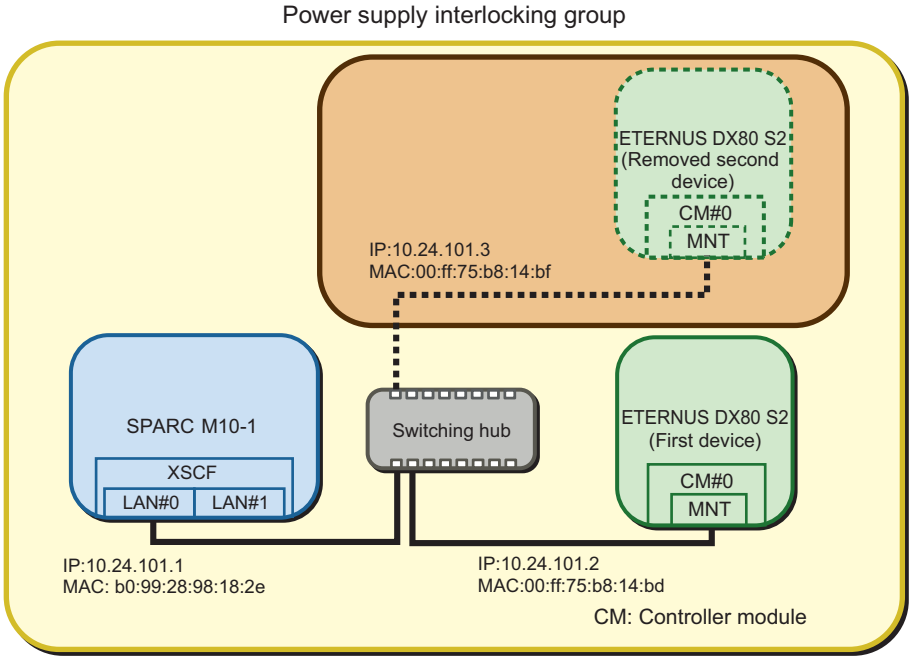
Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                      Power PowerLinkage
   Operation
------ ----------- -------------------------------- ----- ------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
003    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
 ------ ----------- -------------------------------- ----- ------------------
---- -----------
```

3.2.3 Removing an I/O node

This section describes how to configure the power supply interlocking by using a case in which one ETERNUS DX80 S2 is removed from a system that is configured with one SPARC M10-1 and two ETERNUS DS80 S2 as an example. The basic setting process is the same as written in "3.2.1 Adding an I/O node." The I/O node to be removed is deleted from the management table.

Figure 3-16 Removing an I/O node



1. **Acquire the management file of a power supply interlocking group.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   After checking the group ID of the power supply interlocking group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check that the group ID of the power supply interlocking group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                    Power PowerLinkage
   Operation
------ ----------- -------------------------------- ----- --------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
------ ----------- -------------------------------- ----- --------------------
--- -----------
```

Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the power supply interlocking group.**
Make changes to the management file of the power supply interlocking group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Here it is assumed that the management file of the following power supply interlocking group is acquired and the I/O node (ETERNUS DX80 S2) with MAC address "00:ff:75:b8:14:bd" is removed.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:bf,,,,,,,,,
```

Note - If a node ID is deleted because of removing an I/O node, there is no problem reassigning the node ID in the management file.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:bf,,,,,,,,,
```

3. **Disable the power supply interlocking function.**
   To reset the power supply interlocking group using the changed management file, the power supply interlocking function set for all the host nodes and master nodes in the power supply interlocking group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is set.

Note - If multiple host nodes exist in the power supply interlocking group that is currently set, disable the power supply interlocking function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Reset the power supply interlocking group using the management file of the power supply interlocking edited in step 2.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   b. **Execute the setremotepwrmgmt command to set the management file of the power supply interlocking group.**

      If the settings of the downloaded management file is as expected, enter "y" to "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
```

```
NodeID NodeType    NodeIdentName                       PowerLinkage
Operation
------ ----------- ---------------------------------- ---------------------- --
---------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 Enable
WakeUpOnLAN
------ ----------- ---------------------------------- ---------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

5. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**
   Execute this step for all host nodes and master host nodes where the power supply interlocking is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

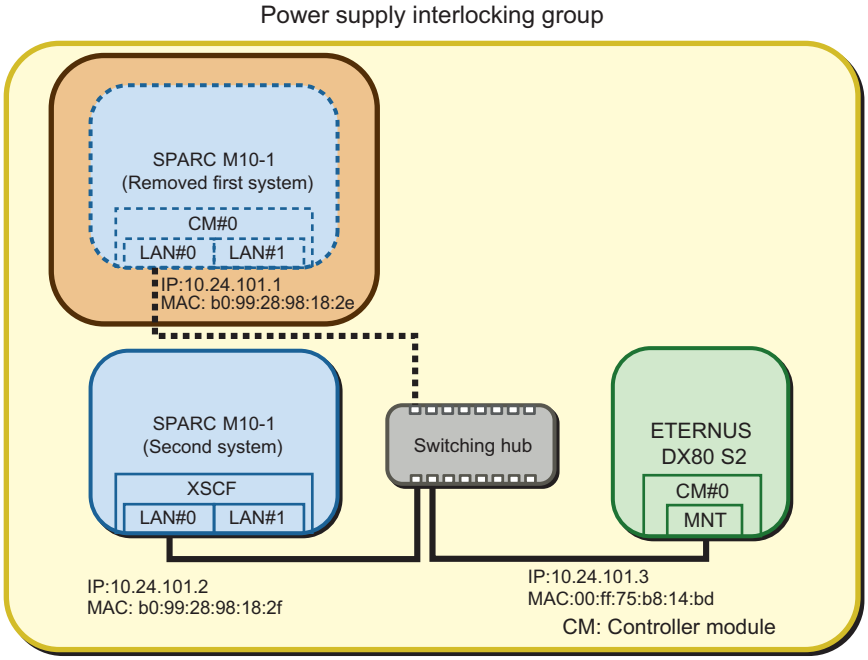
Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                       Power PowerLinkage
   Operation
------ ----------- ---------------------------------- ----- -------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
 ------ ----------- ---------------------------------- ----- -------------------
---- -----------
```

3.2.4 Removing a host node

This section describes how to configure the power supply interlocking by using a case in which one SPARC M10-1 system is removed from a system that is configured with two SPARC M10-1 systems and one ETERNUS DX80 S2 as an example. The basic setting process is the same as written in "3.2.1 Adding an I/O node." The I/O node to be removed is deleted from the management table.

Figure 3-17 Removing a host node



1. **Acquire the management file of a power supply interlocking group.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   After checking the group ID of the power supply interlocking group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check that the group ID of the power supply interlocking group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                    Power PowerLinkage
   Operation
------ ----------- -------------------------------- ----- --------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    HOST        0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
------ ----------- -------------------------------- ----- --------------------
--- -----------
```

Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the power supply interlocking group.**
Make changes to the management file of the power supply interlocking group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Here it is assumed that the management file of the following power supply interlocking group is acquired and the master host node with IP address "10.24.101.1" is removed.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x00,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:18:2f,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

Note - If a master host node is removed, change a host node to a master host node so that a master host node exists in the remaining host nodes. If a node ID is deleted because of removing a host node, there is no problem reassigning the node ID in the management file.

The management file is created as follows.

The value in bold type indicates the changed value.

```
1,2,0x01,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:18:2f,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:fe,,,,,,,,,
```

3. **Disable the power supply interlocking function.**
   To reset the power supply interlocking group using the changed management file, the power supply interlocking function set for all the host nodes and master nodes in the power supply interlocking group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is set.

Note - If multiple host nodes exist in the power supply interlocking group that is currently set, disable the power supply interlocking function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Reset the power supply interlocking group using the management file of the power supply interlocking edited in step 2.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                    PowerLinkage
Operation
------ ----------- -------------------------------- ---------------------- --
---------
```

```
002    Master HOST 0123456789abcdef0000000000000002 Enable(Power-On Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 Enable
WakeUpOnLAN
------ ----------- -------------------------------- -------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

5. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**
   Execute this step for all host nodes and master host nodes where the power supply interlocking is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- -------------------------------- ----- -------------------
--- -----------
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
 ------ ----------- -------------------------------- ----- ------------------
---- -----------
```

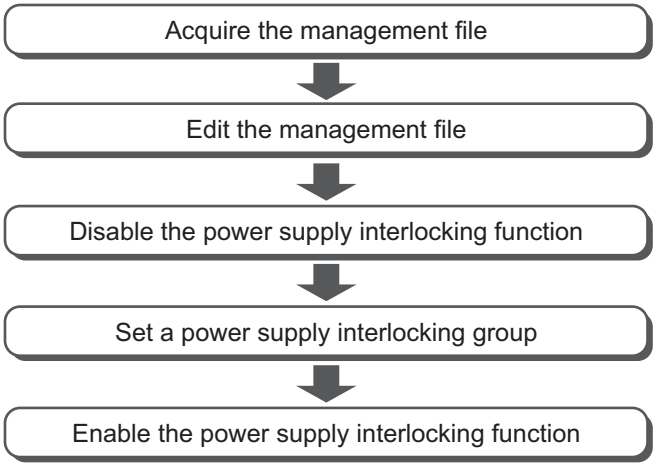
6. **Initialize the power supply interlocking setting of the removed host node (only when a host node is removed).**
   Initialize the power supply interlocking setting by logging into the XSCF shell of the removed host node.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

3.3 Maintaining I/O Node

The following shows how to configure the power supply interlocking when maintaining a controller of the I/O node, such as ETERNUS, whose power supply is interlocked using the Wake on LAN.

Figure 3-18 I/O node maintenance flow



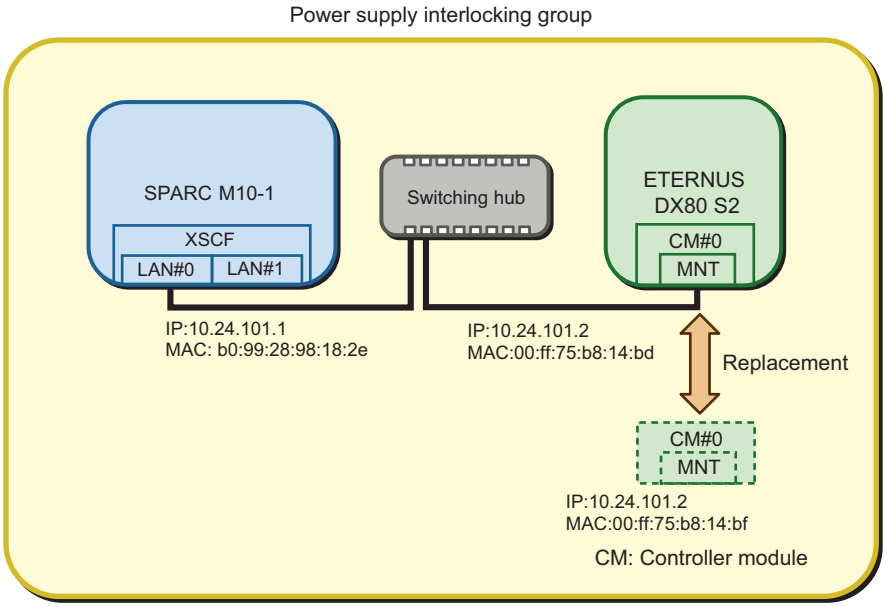
In the following section, how to configure the power supply interlocking is described by using the system configurations below as an example.

- Maintaining an ETERNUS

3.3.1 Maintaining an ETERNUS

This section describes how to configure the power supply interlocking by using a case in which an I/O node (an ETERNUS DX80 S2 controller (CM#0)) in a system that is configured with one SPARC M10-1 and one ETERNUS DX80 S2 is replaced as an example. Edit the management file by checking the MAC address of the I/O node (CM#0 of ETERNUS DX80 S2) to be replaced.

Figure 3-19 Maintaining an ETERNUS



1. **Acquire the management file of a power supply interlocking group.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   After checking the group ID of the power supply interlocking group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check that the group ID of the power supply interlocking group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                      Power PowerLinkage
   Operation
------ ----------- ---------------------------------- ----- --------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
------ ----------- ---------------------------------- ----- --------------------
--- -----------
```

      Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

      1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE**

ONLY" is printed, on the back panel of the XSCF unit.

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the power supply interlocking group.**
Make changes to the management file of the power supply interlocking group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Assume that the management file of the power supply interlocking group that is acquired in step 1 has the following values.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

Table 3-26 Setting values of the ETERNUS DX80 to be maintained (*1)

Item	Setting value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID

Table 3-26 Setting values of the ETERNUS DX80 to be maintained (*1) *(continued)*

Item	Setting value	Remarks
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bf	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

*1 A colored line indicates that the setting is different from the original setting.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bf,,,,,,,,,
```

3. **Disable the power supply interlocking function.**
   To reset the power supply interlocking group using the changed management file, the power supply interlocking function set for all the host nodes and master nodes in the power supply interlocking group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the power supply interlocking is set.

Note - If multiple host nodes exist in the power supply interlocking group that is currently set, disable the power supply interlocking function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Reset the power supply interlocking group using the management file of the power supply interlocking edited in step 2.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the power supply interlocking group.

   Execute the following steps to download the management file of the power supply interlocking group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   b. **Execute the setremotepwrmgmt command to set the management file of the power supply interlocking group.**

      If the settings of the downloaded management file is as expected, enter "y" to "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ---------------------- --
---------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 Enable
WakeUpOnLAN
------ ----------- --------------------------------- ---------------------- --
---------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

5. **Execute the setremotepwrmgmt command to enable the power supply interlocking function.**
   Execute this step for all host nodes and master host nodes where the power supply interlocking is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                    Power PowerLinkage
   Operation
------ ----------- -------------------------------- ----- -------------------
--- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
 002    I/O         0123456789abcdef0000000000000002 OFF   Enable
    WakeUpOnLAN
 ------ ----------- -------------------------------- ----- -------------------
---- -----------
```